

CLAIMS

What is claimed is:

1. A network receiver for recovering a frame of data transmitted at a first data rate on a network medium, the receiver comprising:
5 (a) A receiver circuit utilizing a training sequence portion of a data frame for calculating receiver parameters useful for recovering transmitted data from a subsequent data portion of the data frame; and
10 (b) A buffer circuit storing a portion of data frame at the first data rate and releasing the portion to the receiver circuit at a second data rate, slower than the first data rate to effectively reduce the data rate input to the receiver circuit.

2. The network receiver of claim 1, wherein the receiver circuit is an equalizer utilizing a complex finite impulse response filter to recover transmitted data and the receiver parameters are coefficients for the filter.

3. The network receiver of claim 2, further including an A/D converter sampling a modulated carrier and generating a sequence of sample values representing the modulated carrier at a first sampling frequency and the buffer circuit operates to store data at the first data rate by storing samples at the first sampling frequency and releases samples at a slower sampling frequency corresponding to the second data rate.
S6017
20

4. The network receiver of claim 3, wherein the buffer circuit releases samples at a slower sampling rate during a training sequence of the frame of data and releases samples a faster data rate, which is faster than the first data rate, during a data portion of the frame of data.

5. The network receiver of claim 4, further including a complex mixer receiving
25 the sample values from the A/D converter and generating a sequence of sample values representing an I channel data signal and a sequence of sample values representing a Q channel data signal, and the samples stored in the buffer circuit include the sample values representing the I channel data signal and sample values representing the Q channel data signal.

30 6. The network receiver of claim 5, wherein the data frame is transmitted on the network medium utilizing quadrature amplitude modulation.

7. The network receiver of claim 6, further including a decimation filter to further reduce the sample frequency.

Sub A17

8. The network receiver of claim 3, wherein the buffer circuit releases samples at a slower sampling rate during a training sequence of the frame of data and during a data portion of the frame of data.

9. The network receiver of claim 8, further including a complex mixer receiving the sample values from the A/D converter and generating a sequence of sample values representing an I channel data signal and a sequence of sample values representing a Q channel data signal, and the samples stored in the buffer circuit include the sample values representing the I channel data signal and sample values representing the Q channel data signal.

10. The network receiver of claim 9, wherein the data frame is transmitted on the network medium utilizing quadrature amplitude modulation.

11. The network receiver of claim 10, further including a decimation filter to further reduce the sample frequency.

12. A method of receiving a frame of data transmitted at a first data rate on a network medium, method comprising:

- (a) utilizing a training sequence portion of a data frame for calculating receiver parameters useful for recovering transmitted data from a subsequent data portion of the data frame; and
- (b) buffering a portion of data frame at the first data rate and releasing the portion to the receiver circuit at a second data rate, slower than the first data rate to effectively reduce the data rate input to a receiver circuit.

13. The method of receiving a frame of data of claim 12, further including filtering the data frame utilizing a finite impulse response filter to recover transmitted data and the receiver parameters are coefficients for the filter.

25 14. The method of receiving a frame of data of claim 13, further including sampling the modulated carrier to generating a sequence of sample values representing the modulated carrier at a first sampling frequency and the step of buffering at the first data rate includes storing samples at the first sampling frequency and the step of releasing at the second data rate includes releasing sample values at a slower sampling frequency corresponding to the second data rate.

30 15. The method of receiving a frame of data of claim 14, wherein the step of releasing at the second data rate occurs during a training sequence of the frame of

data and the method further includes a step of releasing sample values at a fast sampling frequency, which is faster than the first sampling frequency, during a data portion of the frame of data.

16. The method of receiving a frame of data of claim 15, further including mixing received sample values in a complex mixer to generate a sequence of sample values representing an I channel data signal and a sequence of sample values representing a Q channel data signal, and the samples stored in the buffer circuit include the sample values representing the I channel data signal and sample values representing the Q channel data signal.

10 17. The method of receiving a frame of data of claim 16, wherein the data frame is transmitted on the network medium utilizing quadrature amplitude modulation.

18. The method of receiving a frame of data of claim 17, further including a decimation filter to further reduce the sample frequency.

15 19. The method of receiving a frame of data of claim 14, wherein the step of releasing at the second data rate occurs during a training sequence of the frame of data and during a data portion of the frame of data.

20 20. The method of receiving a frame of data of claim 19, further including mixing received sample values in a complex mixer to generate a sequence of sample values representing an I channel data signal and a sequence of sample values representing a Q channel data signal, and the samples stored in the buffer circuit include the sample values representing the I channel data signal and sample values representing the Q channel data signal.

21. The method of receiving a frame of data of claim 20, wherein the data frame is transmitted on the network medium utilizing quadrature amplitude modulation.

25 22. The method of receiving a frame of data of claim 217, further including a decimation filter to further reduce the sample frequency.